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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,951	07/16/2003	Maria Anna Rzeznik	51796	8583
21874	7590	06/09/2006	EXAMINER	
EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			KLEMANSKI, HELENE G	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/620,951	RZEZNIK ET AL.
	Examiner Helene Klemanski	Art Unit 1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,4-8 and 11-15 is/are rejected.
- 7) Claim(s) 2,3,9 and 10 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    - 1. Certified copies of the priority documents have been received.
    - 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 10/28/04.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Upon further consideration, the restriction requirement made by the previous examiner has been withdrawn. Accordingly, claims 1-15 have been examined.

***Information Disclosure Statement***

2. The references cited in the Search Report dated February 17, 2004 have been considered.

***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: no literal antecedent basis is seen for the phrase "wherein at least one complexing agent is chosen from pyridine carboxylic acid and pyridine dicarboxylic acid" in claims 7 and 14. Applicants disclose various complexing agents on page 4, line 16 – page 5, line 3 of the specification, however, these two components do not appear as one of the choices for the complexing agent. It appears that these two components are part of the one or more carboxylic acid-substituted nitrogen-containing heterocyclic compounds as disclosed on page 5, lines 13-27 of the specification and not part of the complexing agents. Please clarify.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4, 5, 7, 11, 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 4, 5, 7, 11, 12 and 14, the phrase "chosen from" is considered indefinite since this is improper Markush language. It is the examiner's position that other materials could be present in the Markush group that were not intended by applicants by the use of the phrase "chosen from" since this phrase does not exclude other materials. The examiner suggests the language "selected from the group consisting of" in place of this phrase.

***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

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be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 4-8 and 11-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 5 and 7-10 of copending Application No. 10/620,916 (US 2004/0040852) in view of Bokisa et al. (US 6,720,499). US 2004/0040852 teaches an immersion silver plating bath comprising one or more sources of silver ions, water and one or more carboxylic acid-substituted nitrogen-containing heterocyclic compounds as claimed by applicants and a method of depositing a layer of silver on a substrate by contacting a substrate having a layer of metal that is less electropositive than silver with the above immersion silver plating bath. US 2004/0040852 fails to disclose the addition of one or more complexing agents as claimed by applicants. Bokisa et al. teach the addition of a complexing agent such as an imidazole-2-thione compound (i.e. heterocyclic aromatic compound) and the addition of a chelating agent such as EDTA to an immersion plating bath. The complexing and/or chelating agents are added to keep the immersion platable metal in solution. See col. 8, lines 15-31 and col. 14, lines 24-44. Therefore, it would have been obvious to one having ordinary skill in the art to have included the complexing and/or chelating agent as taught by Bokisa et al. in order to keep the silver in solution to form a better silver layer.

This is a provisional obviousness-type double patenting rejection.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 4-8 and 11-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bokisa et al. (US 6,720,499) in view of Endo et al. (US 5,795,828).

Bokisa et al. teach an immersion alloy plating solution comprising a silver salt, a tin salt, a carboxylic acid such as citric or tartaric acid, a complexing agent such as an imidazole-2-thione compound (i.e. heterocyclic aromatic compound), a chelating agent such as EDTA and water. The alloy can contain 50-99 wt% silver with the remainder tin. Bokisa et al. further teach a method of depositing a layer of silver on a substrate by contacting a substrate having a layer of metal that is less electropositive than silver (i.e. tin) with the above immersion silver plating bath. See col. 3, lines 30-34, col. 4, lines 23-45, col. 4, line 66 – col. 5, line 10, col. 5, line 62 – col. 6, line 4, col. 6, lines 58-65, col. 6, line 66 – col. 7, line 28, col. 8, lines 15-60, col. 14, lines 24-45, Solutions B-5, B-7 and B-8, examples 5, 7 and 8 and claims 1, 2, 4, 12, 13, 16-18 and 22-24. Bokisa et al. fails to teach the use of one or more carboxylic acid-substituted nitrogen-containing heterocyclic compounds a claimed by applicants.

Endo et al. teach an electroless plating bath for deposition of metals such as silver. The bath includes carboxylic acid complexing agents such as citric acid, tartaric acid, picolinic acid and quinolinic acid. See col. 6, lines 1-8.

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Therefore, it would have been obvious to one having ordinary skill in the art to have replaced the citric or tartaric acid of Bokisa et al. with the picolinic acid and/or quinolinic acid of Endo et al. because the substitution of art recognized equivalents as shown by Endo et al. would have been within the level of ordinary skill in the art.

#### ***Allowable Subject Matter***

10. Claims 2, 3, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: None of the prior of record teaches or fairly suggests an immersion silver plating bath comprising one or more sources of silver ions, water, one or more complexing agents and one or more carboxylic acid-substituted nitrogen-containing heterocyclic compounds having a pH of  $\geq 7$  as claimed by applicants.

#### ***Conclusion***

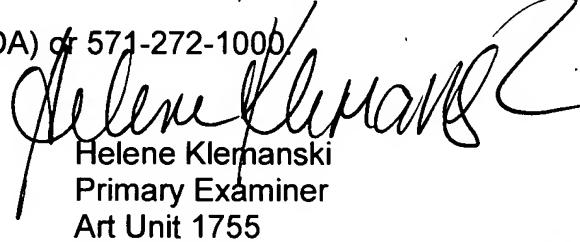
The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Klemanski whose telephone number is (571) 272-1370. The examiner can normally be reached on Monday-Friday 5:30-2:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Helene Klemanski  
Primary Examiner  
Art Unit 1755



HK  
May 31, 2006